AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A video data converter for converting input video coded data based on a first video coding scheme to video coded data based on a second video coding scheme, said first video coding scheme carrying out coding by dividing each frame of a video signal into specified segments and by selecting coding parameters including a motion vector for each specified segment, and said second video coding scheme carrying out coding by dividing each frame of the video signal into specified segments and by selecting coding parameters for each specified segment, said video data converter comprising:

a decoder for decoding from the input video coded data a video signal coded according to the first video coding scheme;

a motion vector mapping section for generating a plurality of motion vector candidates ~~to be used~~ for each specified segment of a frame of the decoded video signal to be coded according to the second video coding scheme, the plurality of motion vector candidates being generated from the motion vector in the coding parameters of each specified segment of the corresponding frame of the video signal coded according to the first video coding scheme; and

a coding parameter deciding section for ~~deciding~~ selecting for each of the specified segments a motion vector to be used in the second video coding scheme from among the generated motion vector candidates, the motion vector being selected ~~in the second video coding scheme~~ according to a prediction error estimation value that estimates a prediction efficiency when using each of the motion vector candidates and according to a motion vector rate estimation value that estimates a motion vector rate when using each of the motion vector candidates.

2. (Currently Amended) The video data converter according to claim 1, wherein said motion vector mapping section generates one of the motion vector candidates ~~by~~ for each of a number of types of motion prediction modes that are possessed by the second video coding scheme.

3. (Currently Amended) The video data converter according to claim 1, further comprising:

a coding mode estimator for estimating a coding mode for each of the specified segments in the second video coding scheme according to a coding mode in the coding parameters of each of the specified segments in the first video coding scheme,

wherein said coding parameter deciding section makes a decision as to which ~~a~~ coding mode is to be used in the second video coding scheme to code the specified segments by selecting, based on the estimated coding modes, ~~when deciding the coding mode,~~ one of the following two methods for deciding the coding mode: ~~of forcedly~~

deciding that the coding mode to be used in each of the specified segments in the second video coding scheme ~~according to~~ is the coding mode estimated by said coding mode estimator, and ~~of~~

deciding the coding mode to be used in each of the specified segments in the second video coding scheme by choosing one of a plurality of coding modes according to the prediction error estimation value and ~~an estimated rate of~~ the motion vector rate estimation value.

4. (Original) The video data converter according to claim 1, further comprising a spatial resolution converter for down-converting spatial resolution of the video data coded in accordance with the first video coding scheme to half resolution in both horizontal and vertical directions.

5. (Original) The video data converter according to claim 1, further comprising a temporal resolution converter for implementing temporal resolution of the video data coded in accordance with the first video coding scheme by decimating a frame not used for inter-frame motion prediction.

6. (Currently Amended) The video data converter according to claim 3, further comprising:

a temporal resolution converter for implementing temporal resolution of video data coded in accordance with the first video coding scheme by decimating ~~frames including~~ a frame used for inter-frame motion prediction, wherein

said motion vector mapping section ~~, when the frame used for the inter-frame motion prediction is decimated, decides a~~ generates the motion vector candidate to be used by the second video coding scheme in coding the decimated frame by using the motion vector in the coding parameters of the frame of the video signal coded according to the first video coding scheme which corresponds to the decimated frame ~~decimated, and~~

~~said coding parameter deciding section, when the frame used for the inter-frame motion prediction is decimated, decides the coding mode to be used in the second video coding scheme by using the coding mode in the frame decimated.~~

7. (Original) The video data converter according to claim 1, wherein said first video coding scheme is an MPEG-2 video coding scheme specified in ISO/IEC 13818-2, and said second video coding scheme is an MPEG-4 video coding scheme specified in ISO/IEC 14496-2.

8. (Currently Amended) A video data converting method of converting input video coded data based on a first video coding scheme to video coded data based on a second video coding scheme, said first video coding scheme carrying out coding by dividing each frame of a video signal into specified segments and by selecting part of coding parameters for each specified segment, and said second video coding scheme carrying out coding by dividing each frame of the video signal into specified segments and by selecting part of coding parameters for each specified segment, said video data converting method comprising the steps of:

decoding from the input video coded data a video signal coded according to the first video coding scheme;

generating a plurality of motion vector candidates ~~to be used~~ for each specified segment of a frame of the decoded video signal to be coded according to the second video coding scheme,

the plurality of motion vector candidates being generated from a motion vector in the coding parameters of each specified segment of the first video coding scheme; and

~~deciding~~ selecting for each of the specified segments a motion vector to be used in the second video coding scheme from among the generated motion vector candidates, the motion vector being selected ~~in the second video coding scheme~~ according to at least one of: a prediction error estimation value that estimates a prediction efficiency when using each of the motion vector candidates, and ~~according to~~ a motion vector rate estimation value that estimates a motion vector rate when using each of the motion vector candidates.

9. (New) The video data converter according to claim 3, wherein

when the estimated coding modes for each of the specified segments is INTRA mode, the coding parameter deciding section decides that the coding mode to be used in each of the specified segments in the second video coding scheme is INTRA mode,

when the estimated coding modes for each of the specified segments is SKIP mode, the coding parameter deciding section decides that the coding mode to be used in each of the specified segments in the second video coding scheme is SKIP mode, and

when the estimated coding mode for at least one of the specified segments is INTER mode, the coding parameter deciding section chooses the coding mode to be used in the at least one of the specified segments in the second video coding scheme as the one of the plurality of coding modes in the second video coding scheme maximizing a coding efficiency based on the prediction error estimation value and the motion vector rate estimation value.

10. (New) The video data converter according to claim 3, wherein for each of the specified segments, the coding parameter deciding section selects the one of the generated motion vector candidates corresponding to the coding mode decided to be used in that specified segment in the second video coding scheme.

11. (New) The video data converting method according to claim 8, wherein said generating step generates one of the motion vector candidates for each of a plurality of types of motion prediction modes that are possessed by the second video coding scheme.

12. (New) The video data converting method according to claim 8, further comprising:

estimating a coding mode for each of the specified segments in the second video coding scheme according to a coding mode in the coding parameters of each of the specified segments in the first video coding scheme,

making a decision as to which coding mode is to be used in the second video coding scheme to code the specified segments by selecting, based on the estimated coding modes, one of the following two methods for deciding the coding mode:

deciding that the coding mode to be used in each of the specified segments in the second video coding scheme is the coding mode estimated by said coding mode estimator, and

deciding the coding mode to be used in each of the specified segments in the second video coding scheme by choosing one of a plurality of coding modes according to the prediction error estimation value and the motion vector rate estimation value.

13. (New) The video data converting method according to claim 8, further comprising down-converting spatial resolution of the video data coded in accordance with the first video coding scheme to half resolution in both horizontal and vertical directions.

14. (New) The video data converting method according to claim 1, further comprising implementing temporal resolution of the video data coded in accordance with the first video coding scheme by decimating a frame not used for inter-frame motion prediction.

15. (New) The video data converting method according to claim 12, further comprising:

implementing temporal resolution of video data coded in accordance with the first video coding scheme by decimating a frame used for inter-frame motion prediction, wherein

the motion vector candidate to be used by the second video coding scheme in coding the decimated frame is generated by using the motion vector in the coding parameters of the frame of the video signal coded according to the first video coding scheme which corresponds to the decimated frame.

16. (New) The video data converting method according to claim 8, wherein said first video coding scheme is an MPEG-2 video coding scheme specified in ISO/IEC 13818-2, and said second video coding scheme is an MPEG-4 video coding scheme specified in ISO/IEC 14496-2.

17. (New) The video data converting method according to claim 12, wherein the decision is made as to which coding mode is to be used in the second video coding scheme to code the specified segments according to the following:

when the estimated coding modes for each of the specified segments is INTRA mode, the coding parameter deciding section decides that the coding mode to be used in each of the specified segments in the second video coding scheme is INTRA mode,

when the estimated coding modes for each of the specified segments is SKIP mode, the coding parameter deciding section decides that the coding mode to be used in each of the specified segments in the second video coding scheme is SKIP mode, and

when the estimated coding mode for at least one of the specified segments is INTER mode, the coding parameter deciding section chooses the coding mode to be used in the at least one of the specified segments in the second video coding scheme as the one of the plurality of coding modes in the second video coding scheme maximizing a coding efficiency based on the prediction error estimation value and the motion vector rate estimation value.

18. (New) The video data converter according to claim 12, wherein for each of the specified segments, the coding parameter deciding section selects the one of the generated motion vector candidates corresponding to the coding mode decided to be used in that specified segment in the second video coding scheme.